conclusive, although it appeared that in frogs the respiratory and cardiac frequency were diminished, and that the irritability of the animals while slightly lessened immediately after the injection, increased considerably until opisthotonos, lasting for a short time, was developed; again diminishing as death was approached. From a comparison of the two cases of pseudo-leukæmia the inference is drawn that in this disease the degenerative and neoplastic processes may present great variations in the individual cases, and that the degenerative processes may preponderate to such a degree that the neoplastic changes are almost wanting, or *vice versa;* thus, two varieties of the disease may be distinguished anatomically, the first almost exclusively neoplastic, lymphomatous; the other degenerative in consequence of coagulation necrosis. The fact that the micrococci found in the blood and in the affected lymphatic system in all three of the cases were alike; further, the fact that in one case the organisms were found three and a half months before death; and finally, the fact that it was possible to induce in lower animals anatomic changes resembling those of leukæmia and pseudo-leukæmia, appear to Verdelli to afford strong confirmation of the view that there is a causal relation between the organisms and the disease. As suppuration was not observed in any of the cases, and only exceptionally in the experimental investigations, it is to be concluded that the virulence of the organisms was attenuated; the pallor of the colonies, their decolorization under certain conditions, likewise indicating a diminution of chromogenetic activity. The interpretation given these cases is in harmony with Virchow's view of their pathogenetic unity, although existing knowledge will not permit the final acceptance of such a view.

SURGERY.

UNDER THE CHARGE OF

J. WILLIAM WHITE, M.D.,

PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE UNIVERSITY AND GERMAN HOSPITALS:

ASSISTED BY

ALFRED C. WOOD, M.D., INSTRUCTOR IN CLINICAL SURGERY, UNIVERSITY OF PENNSYLVANIA; ASSISTANT SURGEON, UNIVERSITY HOSPITAL.

AND

C. L. LEONARD, M D., ASSISTANT INSTRUCTOR IN CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

WHITEHEAD'S OPERATION FOR HEMORRHOIDS FROM AN ANATOMICAL STANDPOINT.

AFTER a careful discussion of the blood-supply of the rectal region, THOMPSON (*Medical Chronicle*, August, 1893) observes that in all cases of piles that are advanced, three large pile masses come into view, especially after dilatation. The anterior mass, about half the size of the others, corresponds to the anterior radicles of the superior hemorrhoidal vessels, and their anastomoses with the middle hemorrhoidal and inferior vesical. The two postero-lateral masses correspond to the lateral trunks of the superior hemorrhoidal, and their anastomoses with the inferior hemorrhoidal. A proper understanding of these facts is necessary for the performance of Whitehead's operation. The anastomosis is complete; the veins have no valves; and, under ordinary circumstances, the greater part of the venous blood passes up the superior hemorrhoidal vein to the portal system, and thence through the liver. Any obstruction causes an excess of blood to flow into the middle and inferior hemorrhoidal vessels. This excess of pressure, with no adequate outlet, causes a distention in their weakest part, which is below, in the comparatively loose cellular layer, and not above, where they are supported by the dense submucous coat. The natural and inevitable consequence is chronic phlebitis, thrombosis, etc. The importance, however, of this loose connective tissue in which the pile area lies cannot be overestimated, for in Whitehead's operation it enables the rectum to be safely separated from the surrounding tissues with but trifling hemorrhage and absolutely no damage to the sphincter muscle. Whitehead's operation this author describes as follows: The patient is prepared by enemas and antiseptic precautions and thoroughly anæsthetized; the sphincter thoroughly distended, with the patient in the lithotomy position, and forceps are placed on each of the pile masses. With a blunt-pointed pair of scissors the junction of skin with mucous membrane around the anal margin is carefully divided, a few snips bringing us into the cellular interval. By passing the finger into this space, either by itself or with the aid of the scissors, the mucous membrane is easily dissected up which contains the piles. This mucous area is drawn down by the attached forceps in the form of a tube; it is then slit up the side and partly around; this cut edge is then sewn to the skin margin by silk sutures; the circular cut is then continued and then sewn again, and thus, step by step, as it is cut the mucous membrane is sewn to the skin. Twisting or tying usually suffices for the slight bleeding encountered, but sometimes the modified Staffordshire knot of Dr. Sampson, placed in the supply of the pile area, will be of service. This can be done after the dissection of the mucous membrane. The author insists upon the importance of opening at the beginning of the operation the "peri-anal" space, and believes that failure to do so will cause later more or less injury to the sphincter and incontinence. He has the utmost confidence in this operation.

FOUR HUNDRED AND FIFTY CASES OF CONGENITAL CLUB-FOOT.

TAPPERT (*Münch. med. Woch.*, 1893, No. 18) has in the past forty years operated upon five hundred and forty cases of talipes. He has used the subcutaneous method for the most part, cutting the tendons of the shortened muscles, usually beginning with the tibialis anticus, which he has found to be shortened in all cases of intense talipes. Then after a few days the plantar aponeurosis and the tendo Achillis, in exceptional cases the extensor hallicis tendon, and through an open wound the tibialis posticus. Then follows a plaster-of-Paris bandage—a paper splint, the shape of the plantar surface of the foot and covered with plaster being first put on, and then the